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Patient-reported pathways to opioid use disorders and pain-related barriers to treatment engagement

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ABSTRACT

Background: Risk factors associated with developing opioid use disorders (OUD) are documented, but less is known about different pathways to initiation of opioids or opioid dependence, or how such pathways affect treatment engagement.

Methods: We recruited 283 adults with electronic medical record (EMR) evidence of opioid dependence diagnoses. Open-ended and structured interview items focused on prior opioid treatment experiences, barriers to and knowledge of treatment options. Interviews were audio-recorded, transcribed, and coded. In exploratory analyses, we used a modified grounded theory approach to organize emergent, patient-reported themes describing participants' perceived pathways to opioid dependence.

Results: 121 participants described one or more pathways to OUD. Qualitative analyses revealed five pathway themes. Three pathways were related to pain control: inadequately controlled chronic pain, exposure to opioids during acute pain episodes, and chronic pain among individuals with prior substance use disorders. A fourth pathway included individuals for whom opioids provided relief from emotional distress; the fifth related to recreational or non-medically supervised opioid use. We identified pain-related barriers to reducing/stopping opioids and treatment engagement barriers among individuals who perceived themselves solely as pain patients.

Conclusion: Patients' perceptions of inadequately controlled pain, patients' previous substance use disorders, and the relief from emotional distress that some patients feel while using opioids are relevant when making clinical decisions about whether to initiate or sustain opioid therapy, and for how to monitor certain individuals. Among individuals with pain and OUD, treatment barriers include fear of uncontrolled pain, and stigmatization of being treated alongside people with non-medical opioid use.

1. Introduction

The prevalence of individuals with opioid use disorders (OUD) in the United States has grown over the past decade and remains stubbornly high despite efforts to reduce prescription opioid misuse and abuse and heroin use (Substance Abuse and Mental Health Services Administration, 2012, 2014). Fueled in part by increased prescribing of opioid analgesics (Centers for Disease Control and Prevention, 2011; Paulozzi, Strickler, Kreiner, & Koris, 2015), and a parallel rise in heroin use across the country (Cicero, Ellis, & Surratt, 2012; Coplan, Kale, Sandstrom, Landau, & Chilcoat, 2013; Jones, Logan, Gladden, & Bohm, 2015), the need to understand how opioid use disorders develop is a critical public health issue.

Demographic characteristics associated with risk of OUD are known (Cochran et al., 2014). We also know that individuals with certain experiences—chronic pain, mental health diagnoses, and prior substance use problems—are at increased risk for developing problematic opioid use when treated with opioids (Chou et al., 2009b; Edlund et al., 2010; Rice et al., 2012). Once an OUD has developed and an individual has engaged in treatment, we know that those with prescription opioid use disorders tend to have better outcomes than individuals with heroin-only or heroin and prescription opioid problems; they are more likely to complete treatment and have fewer opioid-positive urine samples (McCabe et al., 2013; Nielsen, Hillhouse, Thomas, Hasson, & Ling, 2013; Potter et al., 2013).

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However, less is known about how individuals arrive at problematic opioid use, or about how one's pathway to an OUD affects treatment engagement or engagement-related barriers. In the absence of prospective studies documenting the processes by which individuals develop opioid dependence, patients' recollections of their pathways to an OUD—though vulnerable to limitations of self-reported historical data and the potential for social desirability to distort recollections—serve as a starting point for developing a deeper insight into how individuals understand their substance-related problems, and the ways in which these explanatory models affect treatment. This information may be helpful in preventing OUDs in others, discerning who is most vulnerable to opioid dependence, and providing tailored, person-centered treatment.

This qualitative analysis is part of a larger mixed-methods study designed to understand the adoption of buprenorphine as a medication-assisted treatment option. Our prior work has described health system use (McCarty et al., 2010) and costs associated with opioid treatment (Lynch et al., 2014), health care provider experiences with adopting buprenorphine as an OUD treatment option (Green et al., 2014), and patient-reported opioid agonist treatment preferences (Yarborough et al., 2016). The aim of the current paper is to document individuals' explanatory models for how they developed an OUD—and, for some, how these models affected treatment engagement. We use emergent findings from semi-structured interviews conducted among a large sample of insured individuals with electronic medical record (EMR) evidence of any type of OUD diagnosis (i.e. heroin and/or prescription opioids, prescribed or not prescribed).

2. Material and methods

The Treatment Options Study (TOP) was a mixed-methods study of the adoption of buprenorphine in two health systems—Kaiser Permanente Northwest (KPNW) and Kaiser Permanente Northern California (KPNC). Both health systems provide inpatient and outpatient medical, mental health and addiction medicine care. Goals of the study included understanding patient experiences with, and preferences for, opioid use disorder treatment (Yarborough et al., 2016) and health care provider beliefs about buprenorphine treatment for OUD (Green et al., 2014). Data was derived from the EMR (health care utilization, diagnoses, comorbidities), and structured questionnaire and semi-structured interviews with patients with opioid use disorders.

2.1. Eligibility

Eligible individuals were 18 years of age and older with a minimum of two opioid dependence diagnoses recorded in the EMR during an encounter in the 12 months preceding recruitment. It is common to require two instances of a diagnosis when identifying a sample from the EMR as it greatly reduces misidentification based on a single instance of the diagnosis. Opioid dependence diagnoses could have been made by any clinician treating the patient, e.g. primary care, addiction medicine, or other specialist providers. Individuals were eligible for the study based on diagnoses rather than treatment status. Participants with a history of opioid dependence or who were in remission were included in the study, as were individuals with two diagnoses but no current or limited treatment. All participants provided informed consent prior to participation; the study was approved and monitored by the KPNW and KPNC Institutional Review Boards. We excluded individuals who were unable to provide consent due to cognitive impairment.

2.2. Recruitment

EMR data were reviewed monthly to identify patients with opioid dependence diagnoses. Recruitment letters ($n = 965$) were sent to Addiction Medicine department chiefs who were asked to sign and return letters for patients deemed suitable for recruitment and to return letters, unsigned, for patients deemed unable to participate ($n = 226$ patients, 23%). Chiefs excluded patients who were unavailable, unable to consent, or whose condition was not currently suitable to participation. Though not typical of all studies, we engaged the chiefs of Addiction Medicine for two reasons: to avoid engaging patients who may have been in an early or vulnerable stage of treatment, and to improve recruitment rates by having chiefs demonstrate their support for the study. Recruitment letters described the purpose of the study as "to learn about treatment for patients dependent on opioids." The letters invited participation in a single in-person interview and offered a $50 gift card to a local one-stop shopping store. After one week, we telephoned patients to ascertain interest. The enrollment goal of 265 participants (>125 per health system) was exceeded before sending the final 32 letters. Of 707 letters mailed, 277 patients (39%) were never reached, 94 (13%) refused to participate, and 53 (7%) were deemed ineligible after attempting to contact them (e.g., moved out of area; non-English speakers). We enrolled 283 individuals, representing 40% of eligible participants, a 66% cooperation rate among individuals with whom we made contact.

2.3. Interview content

A semi-structured interview guide was used to assess prior experiences with OUD treatment, knowledge/attitudes about methadone, clonidine and buprenorphine, treatment preferences, barriers to obtaining OUD treatment, and treatment costs. Interviews were conducted face-to-face, typically in a health plan facility of the participants' choosing. Interviews were conducted by Master's-level trained interviewers with significant experience working with individuals who have mental illnesses and substance use disorders. Hour-long interviews were audio-recorded and transcribed verbatim. The first half of the interview guide began with open-ended interview items such as "Have you ever been treated in any addiction treatment (chemical dependency) program? Could you tell me a little about your most recent treatment? What substances were you getting help for? Could you tell me about any medications you considered taking as part of your treatment and what you thought about them?" No items specifically asked patients to identify their opioid dependence pathways or to provide a detailed history of their opioid use (see Supplemental materials for the full interview guide; Appendix A). The second half of the interview included interviewer-administered questionnaire items. Those reported in this paper include items assessing lifetime heroin use and prescription opiate use (in ways other than they were prescribed), both reported as yes or no. Past year drug problems were recorded yes/no in the same manner. Four yes/no items assessed history of the following addiction treatments: methadone, buprenorphine, outpatient/intensive outpatient, and residential. Current treatment (past 90 days) was assessed using one item: "Are you currently (or have you recently been) in treatment?" Responses were yes/no. Three items captured self-reported pain in the sample. First, "How often do you experience pain?" had seven responses ranging from "less often than once a month" to "at all times." Second, "How much bodily pain have you had during the past 4 weeks?" included responses of none, very mild, mild, moderate, severe and very severe. Finally, "Thinking about the last time you experienced pain, please give me a number from 0–10 to indicate the intensity of your pain;" higher numbers represented greater amounts of pain.

2.4. Analyses

After completing 10% of interviews, investigators began independently reading and coding transcripts using inductive, open coding techniques. Open coding begins with reading the text and noting broad concepts or themes being expressed, and often involves writing short memos in order to organize thoughts around those concepts (Strauss & Corbin, 1998a, 1998b). We compared initial open codes across coders and used this information to develop descriptive codes